State of California
AIR RESOURCES BOARD

Small Off-Road Engine Evaporative Emission System Components
Executive Order Q-13-016

Custom Resins, Inc.
Innovative Products

WHEREAS, Pursuant to California Health and Safety Code, sections 39600, 39601, and 43013, the California Air Resources Board (ARB) has established a certification process for evaporative emission system components designed to control gasoline emissions from small off-road engines, as described in California Code of Regulations, title 13, section 2767.1;

WHEREAS, Pursuant to California Health and Safety Code, section 43013, ARB has established criteria and test procedures for determining the compliance of evaporative emission system components with the design requirements in Cal. Code Regs., title 13, section 2754;

WHEREAS, Pursuant to Cal. Code Regs., title 13, section 2767.1, ARB Executive Officer may issue an executive order (EO) if he determines that the small off-road engine evaporative emission system component or innovative product conforms to the applicable performance requirements set forth in Cal. Code Regs., title 13, section 2754 and 2755;

WHEREAS, Pursuant to California Health and Safety Code, sections 39515 and 39516, ARB Executive Officer issued EO G-05-008 delegating the Chief of ARB's Monitoring and Laboratory Division (MLD) authority to certify small off-road engine evaporative system components and innovative products; and

WHEREAS, On March 22, 2013, Custom Resins, Inc. submitted an application for certification as an innovative product under Cal. Code Regs., title 13, section 2767(c) for model Nylene 494P IM Blk resin material for rotational molded fuel tanks.

NOW, THEREFORE, I, Michael T. Benjamin, Chief of MLD, find that fuel tanks produced using Custom Resins, Inc. model Nylene 494P IM Blk resin material and following the process and material specifications set out in Attachment A constitute innovative fuel tanks pursuant to Cal. Code Regs., title 13, section 2767(c). Fuel tanks produced following Custom Resins, Inc. process and material specifications are hereby deemed equivalent to those tanks listed in Cal. Code Regs., title 13, section 2752(a)(5). This finding is based on Custom Resins, Inc. demonstration that such fuel tanks have a permeation rate less than 1.5 grams per square meter per day set forth in Cal. Code Regs., title 13, section 2754, when tested at a constant temperature of 40°C pursuant to TP-901 using an approved test fuel of CE10 certification fuel.

IT IS ORDERED AND RESOLVED that no tank permeation data is required to be submitted in the certification process for equipment using the Custom Resins, Inc. model Nylene 494P IM Blk resin material rotational molded fuel tanks.

IT IS ORDERED AND RESOLVED that all fuel tanks made from Custom Resins, Inc. model Nylene 494P IM Blk resin material with minimum barrier and nominal wall thicknesses equal to or greater than the value listed in Table 1 incorporated herein, are certified for use in small off-road equipment.

Table 1
Specifications for Custom Resins, Inc. Model Nylene 494P IM Blk Resin Material Rotational Molded Fuel Tanks

Minimum barrier thickness (mm)	Nominal overall tank thickness (mm)
3.0	3.7

IT IS FURTHER ORDERED that equipment manufacturers utilizing Custom Resins, Inc. model Nylene 494P IM Blk resin material for fuel tanks shall provide warranty to purchasers of the fuel tanks. The warranty must conform to the requirements of Cal. Code Regs., title 13, section 2760.

IT IS FURTHER ORDERED that the certified model Nylene 494P IM Blk resin material rotational molded fuel tanks shall be installed in accordance with the manufacturer's installation and use instructions for the tanks. A copy of this EO and installation and use instructions for the fuel tanks shall be provided to manufacturers purchasing Custom Resins, Inc. model Nylene 494P IM Blk resin material rotational molded fuel tanks for installation on small off-road engines and equipment introduced into commerce in California.

IT IS FURTHER ORDERED that Custom Resins, Inc. model Nylene 494P IM Blk resin material rotational molded fuel tanks shall be clearly identified by a permanent identification that allows ARB to identify the manufacturer's name, EO number, and model number.

IT IS FURTHER ORDERED that any modification of the Custom Resins, Inc. approved process and material specifications for producing model Nylene 494P IM Blk resin material rotational molded fuel tanks is prohibited. Any alteration or modification of the process or material specifications set out in Attachment A of this EO will require the manufacturer to apply for a new EO.

IT IS FURTHER ORDERED that the Custom Resins, Inc. model Nylene 494P IM Blk resin material rotational molded fuel tanks shall be compatible with fuels in common use in California at the time of certification and any modifications to comply with future California fuel requirements shall be approved in writing by the Executive Officer or the Executive Officer's delegate.

IT IS FURTHER ORDERED that the innovative product certification of the Custom Resins, Inc. model Nylene 494P IM Blk resin material rotational molded fuel tanks can be referenced in certification applications for small off-road engines and equipment that use small off-road engines unless the Executive Officer finds that the Custom Resins, Inc. model Nylene 494P IM Blk resin material rotational molded fuel tanks no longer meet the performance requirements set forth in Cal. Code Regs., title 13, section 2754, when tested pursuant to Cal. Code Regs., title 13, section 2765.

Executed at Sacramento, California, this 16th day of April 2013.

Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

Executive Order Q-13-016
Attachment A

Custom Resin, Inc. Nylene 494P IM Black Resin Material—Process and Material Specifications

Model: Nylene 494P IM Blk (Black)

This information has been sanitized to withhold proprietary or confidential information which can be provided on a need to know basis by Custom Resin, Inc.

1. **Material Specifications: Nylene 494P IM Blk (Black)**
   Components of Nylene 494P IM Blk (Black) resin material.
   A. Nylene 494B pellet
      Material Manufacturer: Custom Resin, Inc.
      Material Composition: Nylon PA6 resin

   B. Heat Stabilizer Additive powder

   C. Heat Stabilizer Additive pellet

   D. Black Color Additive pellet

   E. Black Color Additive pellet

   F. Impact Modifier Additive pellet

2. **Part design—Mono-layer Tanks**
   A. Nominal wall thickness: 3.7mm
   B. Minimum wall thickness: 3.0mm
   C. Various size and tank design
   D. Measurement of thickness performed using Ultra-Sonic Thickness Gauge.

Attachment A (continued)

3. Process Parameters—Mono-Layer Tank

A. Manufacturing Process: Roto-Molding

B. Molding Process:

1. Heat Cycle: ≈ 12 minutes to 40 minutes
2. Heat Temperature: ≈ 500°F to 675°F
    a. Heat cycle can include the addition of an inert air to help prevent oxidation of material during the process from 0.5 psi to 5.0 psi.
3. Cooling Cycle: ≈ 10 minutes to 45 minutes of forced air fan.